REMARKS

Summary

Claims 1-3, 5-12 and 14-17 remain standing in this application. Claims 4, 13 and 18-19 were previously cancelled. Favorable reconsideration and allowance of the standing claims are respectfully requested.

Drawings

The drawings stand objected to under 37 CFR § 1.83(a) for not showing every feature of the invention as specified in the claims. More particularly, at page 2, paragraph 2 of the Office Action, Examiner submits that the "packet array has a length of 1-N" must be shown in the drawings. Applicant respectfully traverses the objection, and requests reconsideration and withdrawal of the drawing objection.

Applicant submits that every feature of claims 1-3, 5-12 and 14-17 is shown by FIGS. 1-8. Claims 1-3 and 5-9 are method claims implemented by a computer. Claims 12 and 14-17 are article claims having instructions stored on a storage medium for execution by a processor. FIG. 2 illustrates an example of a multi-processor processing system suitable for implementing the subject matter of claims 1-3, 5-12 and 14-17. FIG. 4 illustrates an example of a flow diagram of programming logic suitable for claims 1-3, 5-12 and 14-17. FIGS. 5 and 6 illustrate various examples of packet arrays of claims 1-3, 5-12 and 14-17 as executed by the multi-processor system of FIG. 2. FIG. 7 illustrates an example of a timing diagram showing the various operations of claims 1-3, 5-12 and 14-17 as executed by the multi-processor system of FIG. 2.

Applicant respectfully submits that the limitation "packet array has a length of 1-N" is not a feature that is required to be included in the drawings. The term "1-N" is not intended to be viewed as the mathematical equation "1 minus N." Rather, "1-N" is intended to indicate that multiple packets can exist in a packet array whereby the length of the packet array can range from "1 to N" packets. For example, a packet array may have a length ranging from 1 to 7 packets (i.e. "packet array has a length of 1-7").

For at least the reasons given above, Applicant submits that every feature of claims 1-3, 5-12 and 14-17 is shown by FIGS. 1-8 and that the limitation "packet array has a length of 1-N" need not be added to the drawings. Accordingly, Applicant respectfully requests removal of the drawing objections.

35 U.S.C. § 112

Claims 5, 9 and 14 have been rejected under 35 U.S.C. § 112 for not particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention. More particularly, at page 3, paragraph 5 the Office Action states that the "limitation of '1-N' is not specifically described in a way for one to properly interpret what N stands for in the specification." Applicant respectfully traverses the rejection, and requests reconsideration and withdrawal of this 112 rejection.

As stated above, the term "1-N" is not intended to be viewed as the mathematical equation "1 minus N." Rather, "1-N" is intended to indicate that multiple packets can exist in a packet array whereby the length of the packet array can range from "1 to N" packets. For example, a packet array may have a length ranging from 1 to 7 packets (i.e. "packet array has a length of 1-7").

Applicant respectfully submits that claims 5, 9 and 14 are definite. As stated in the Specification:

> For example, the NDIS interface may receive the packet array, and set an implicit resource state indicator for each packet in the array. This may be performed by retrieving each packet 1-N in order from the packet array....

Specification, page 15, line 22 to page 16, line 10. The Specification further states that:

> This example uses only seven packets for purposes of clarity. Packet arrays, however, can be arbitrarily long. In high-speed NDIS drivers, such as gigabit Ethernet drivers, they are typically tens or hundreds of packets in lengths.

Id. at page 12, lines 14-16. From such information, as well as other information in the Specification, it can be appreciated that the language "1-N" in the claimed subject matter refers to a length for a packet array, where "N" represents a number of packets in the packet array. Accordingly, removal of the 112 rejection for claims 5, 9 and 14 is respectfully requested.

Claims 1-3, 5-12 and 14-17 have been rejected under 35 U.S.C. § 112, first paragraph, for not particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention. More particularly, page 3, paragraph 6 of the Office Action states that "the limitation of, 'indicating said packet array to a protocol stack if said resource state comprises a low resource state to reduce copying of packets between buffers' is not stated in a manner that would be conclusive to the act of indicating said packet array would 'reduce copying of packets between buffers.'" Applicant respectfully submits, however, that the above recited limitation is adequately described in the Specification. For example, the Specification at page 12, lines 9-13, states the following:

> In this example, a layer above the driver may copy packets 3-7 before the packets are passed to the protocol stack. Packets 6 and 7, however, explicitly indicate a normal resource state thereby removing the need to copy packets 6-7. The NDIS interface does not heed the explicit state, but rather, the decision to copy is based solely on the implicit status, and therefore packets 6-7 may be unnecessarily copied.

The Specification at page 13, lines 7-21, further states:

> **One embodiment of the invention may reduce the need to copy packets between buffers**.... In Windows 2000, Microsoft introduced a feature that allowed NDIS device drivers to be de-serialized or multi-threaded. This allows the driver to be running on multiple processors simultaneously. This means that on one processor the device driver could be indicating received packets, while on another processor NDIS could be returning resources from previously indicated packets that have been processed by the protocol stack. One embodiment of the invention takes advantage of the fact that, on a multiprocessor system the resource state of a de-serialized driver may change while receive indication function is running. In a multiprocessor system, one processor can construct packet arrays and indicate them to the NDIS interface, while on a second processor receive resources can be returned to the driver. **One embodiment of the invention may accomplish this by truncating the receive packet array when a low resource state is encountered**. This technique may be further explained with reference to FIGS. 4-7.

Applicant submits that the above recited language provides one example of clearly describing that indicating the packet array would reduce copying of packets between buffers, since "truncating the receive packet array when a low resource state is encountered" would solve the example problem of "packets 6-7 may be unnecessarily copied."

Applicant submits that the above remarks are made to overcome the § 112 rejections and are not made to overcome the cited references. Accordingly, these remarks should not be construed in a limiting manner.

35 U.S.C. § 103

At page 4, paragraph 10 of the Office Action claims 1, 2, 6-8, 10, 11 and 15-17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over United States Patent Number (USPN) 5872920 to Hausman et al. ("Hausman") in view of USPN 6765873 to Fichou et al ("Fichou") and further in view of USPN 6651117 to Wilson et al. ("Wilson"). Applicant respectfully traverses the rejection, and requests reconsideration and withdrawal of the obviousness rejection.

The Office Action has failed to meet its burden of establishing a *prima facie* case of obviousness. According to MPEP § 2143, three basic criteria must be met to establish a *prima facie* case of obviousness. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck,* 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP 706.02(j).

As recited above, to form a *prima facie* case of obviousness under 35 U.S.C § 103(a) the cited references, when combined, must teach or suggest every element of the

claim. *See* MPEP § 2143.03, for example. Applicant respectfully submits that the Office Action has not established a *prima facie* case of obviousness because the cited references, taken alone or in combination, fail to teach or suggest every element recited in claims 1, 2, 6-8, 10, 11 and 15-17. Therefore claims 1, 2, 6-8, 10, 11 and 15-17 define over the cited references whether taken alone or in combination. For example, claims 1 and 10 recite the following language, in relevant part:

> indicating said packet array to a protocol stack if said resource state comprises a low resource state....

According to the Office Action, this language is disclosed by Hausman at column 6, lines 18-46, "*...software protocol (driver)....*" Applicant respectfully disagrees. Hausman at the given cite, in relevant part, states:

> FIG. 4B illustrates the process by which packets are transmitted from TX FIFO 190 to the physical medium. In step 420 it is determined if the number of bytes in TX FIFO 190 is at least equal to a TX start threshold. The TX start threshold may be varied by the driver to reduce the likelihood of transmit underruns. Control remains at this step until the TX start threshold is met, at which time control passes to step 425. At step 425 the adapter begins to transmit a packet from TX FIFO 190 and continues until the entire packet has been transmitted or an error has occurred, at which point control passes to step 430. At step 430 it is determined if an error was detected during transmission. If so, control passes to step 435 at which it is determined if the error was an underrun error. If the error was an underrun error, then a "bad" CRC is intentionally generated at step 440. If the error was not an underrun, or after a bad CRC is generated, control passes to step 445 where the error status is updated, and next to step 450 where the transmitter is disabled. If at step 430 no error was detected, control passes from there to step 460, at which the transmit status is updated. Next, at step 465, *the software protocol (driver) is checked to determine if whether an acknowledgement that packet transmission is complete is required.* If not, control returns to start again at the loop of

> step 420 to await transmission of the next packet. If an acknowledgement is required, at step 470 the driver requests from the adapter an interrupt on successful completion of the next packet transmission, after which control passes to the loop of step 420.

The above recited language of Hausman arguably teaches that "the software protocol (driver) is checked to determine if whether an acknowledgement that packet transmission is complete is required." Determining if an acknowledgment of transmission is required, however, is significantly different from "indicating said packet array to a protocol stack if said resource state comprises a low resource state" as recited in claims 1 and 10. Nowhere in Hausman at the given cite is a "protocol stack" or a "low resource state" even disclosed or mentioned. Consequently, Hausman does not disclose the missing language of "indicating said packet array to a protocol stack if said resource state comprises a low resource state" as recited in claims 1 and 10. Furthermore, Fichou and Wilson also fail to disclose, teach or suggest the missing language. Accordingly, Hausman, Fichou and Wilson, whether taken alone or in combination, fail to disclose, teach or suggest every element recited in claims 1 and 10.

Furthermore, if an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending therefrom is non-obvious. *See* MPEP § 2143.03, for example. Accordingly, removal of the obviousness rejection with respect to claims 1 and 10 is respectfully requested. Claims 2, 6-8, 11 and 15-17 also are non-obvious and patentable over Hausman, Fichou and Wilson, taken alone or in combination, at least on the basis of their dependency from claims 1 and 10. Applicant, therefore, respectfully requests the removal of the obviousness rejection with respect to these dependent claims.

At page 7, paragraph 30 of the Office Action claims 3, 5, 9, 12 and 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hausman, Fichou, and Wilson and further in view of USPN 5901139 to Shinohara ("Shinohara"). Applicant respectfully traverses the rejection, and requests reconsideration and withdrawal of the obviousness rejection.

Claims 3, 5 and 9 depend from claim 1 and claims 12 and 14 depend from claim 10. Hausman, Fichou, and Wilson fail to disclose all the language of claims 1 and 10 as previously discussed. Shinohara also fails to disclose the missing language of claims 1 and 10. Consequently, claims 3, 5, 9, 12 and 14 represent patentable subject matter in view of the cited references, whether taken alone or in combination, for at least those reasons given for claims 1 and 10, and also include additional features that further distinguish claims 3, 5, 9, 12 and 14 from Hausman, Fichou, Wilson and Shinohara. Accordingly, removal of the obviousness rejection with respect to claims 3, 5, 9, 12 and 14 is respectfully requested.

Conclusion

For at least the above reasons, Applicant submits that claims 1-3, 5-12 and 14-17 recite novel features not shown by the cited references. Further, Applicant submits that the above-recited novel features provide new and unexpected results not recognized by the cited references. Accordingly, Applicant submits that the claims are not anticipated nor rendered obvious in view of the cited references.

Applicant does not otherwise concede, however, the correctness of the Office Action's rejection with respect to any of the dependent claims discussed above.

Accordingly, Applicant hereby reserves the right to make additional arguments as may be necessary to further distinguish the dependent claims from the cited references, taken alone or in combination, based on additional features contained in the dependent claims that were not discussed above. A detailed discussion of these differences is believed to be unnecessary at this time in view of the basic differences in the independent claims pointed out above.

It is believed that claims 1-3, 5-12 and 14-17 are in allowable form. Accordingly, a timely Notice of Allowance to this effect is earnestly solicited.

The Examiner is invited to contact the undersigned at 724-933-9338 to discuss any matter concerning this application.

The Office is hereby authorized to charge any additional fees or credit any overpayments under 37 C.F.R. § 1.16 or § 1.17 to the credit card in the previously filed credit card authorization form.

Respectfully submitted,

KACVINSKY LLC

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Under 37 CFR 1.34(a)

Dated: March 10, 2006

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